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PATENT DEPARTMENT
MACROVISION CORPORATION
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EXAMINER

MOORTHY, ARAVIND K

ART UNIT PAPER NUMBER

2131

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/388,296

Applicant(s)

QUAN ET AL.

Examiner

Aravind K Moorthy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 155 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-55 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. Claims 1-55 are pending in the application.
2. Claims 1-11 and 13-55 stand being rejected.

Response to Amendment

3. The examiner approves the new title.
4. The applicant has overcome claim Rejections - 35 USC § 112(2) with amendment to the claims.

Response to Arguments

5. Applicant's arguments with respect to claims 1-55 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

6. **Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

As to claim 12, Prior art does not teach removing all or sufficient portions of the copy protection signals of sync/pseudo sync and AGC pulses, inserting new sync/pseudo sync pulses in advance of the position of the original sync/pseudo sync pulses that are removed, and inserting new AGC pulses in delayed relation to the position of the original AGC pulses. Prior art does not teach providing the further position separation sufficient to reduce the effects of the copy protection signals.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-3, 7-9, 13-23, 36-39 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Noller U.S. Patent No. 5,155,767.

As to claims 1 and 39, Noller discloses providing the sync/pseudo sync pulses with the trailing edge thereof having the small position separation from the leading edge of respective AGC pulses [column 1, lines 44-63]. Noller discloses that the small position separation maintains the copy protection effect. Noller discloses shifting the relative position of either the trailing edge of the sync/pseudo sync pulses or the leading edge of the respective AGC pulses with respect to each other, or shifting the relative positions of the trailing edge of the sync/pseudo sync pulses and the leading edge of the respective AGC pulses, to provide a

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modified position separation between the trailing edge of the sync/pseudo sync pulses and the leading edge of the respective AGC pulses sufficient to reduce the effects of the copy protection signals [column 8, lines 21-63].

As to claim 2, Noller discloses delaying the leading edge of the AGC pulses relative to the trailing edge of the respective sync/pseudo sync pulses by a time period commensurate with the modified position separation [column 8, lines 21-63].

As to claim 3, Noller suggests that the delay is in the region 1.0 to 2.5 microseconds [column 9, lines 25-53].

As to claim 7, Noller suggests narrowing the duration of the sync/pseudo sync pulses and/or the respective AGC pulses in combination with the shifting of the relative positions of the sync/pseudo sync and respective AGC pulses [column 8, lines 21-63].

As to claim 8, Noller suggest that the video level of the modified position separation is at a video level in the region of blanking level [column 9, lines 25-53].

As to claim 9, Noller discloses that delaying the AGC pulse relative to the respective sync/pseudo sync pulse to provide a modified position separation that partially defeats the effects of the copy protection signals. Noller discloses narrowing the AGC pulse an amount sufficient to defeat or substantially reduce the effects of the copy protection signals [column 8, lines 21-63].

As to claim 13, Noller discloses providing the small position separation between normal sync pulses and respective AGC pulses, as discussed above. Noller discloses position modulating the AGC pulses while maintaining the modified position separation between the

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normal sync pulses and the respective AGC pulses which reduces the effects of the copy protection signals, as discussed above.

As to claim 14, Noller suggests reversing the order of at least one of the sync/pseudo sync pulses and respective AGC pulses while maintaining the modified position separation [column 9, lines 25-53].

As to claim 15, Noller suggests phase shifting at least portions of the sync/pseudo sync pulses and the respective AGC pulses to 180 degrees [column 3, lines 26-46].

As to claim 16, Noller discloses an input supplying the copy protected video signal with the trailing edge of the sync or pseudo sync pulses and the leading edge of the respective AGC pulses having the given small position separation which maintains the copy protection effect. Noller discloses a timing circuitry responsive to the input and providing timing signals coincident with one or more portions of the copy protection signals and indicative of one or more video lines containing sync/pseudo sync and respective AGC pulses. Noller discloses a modifying circuit responsive to the timing circuitry and shifting a position of the sync/pseudo sync pulses or of the respective AGC pulses on the line so as to provide a modified position separation between the trailing edge of the sync or pseudo sync pulses and the leading edge of respective AGC pulses which is of sufficient position separation to reduce or defeat the effects of the copy protection signals [column 9, lines 25-53].

As to claim 17, Noller discloses a timing circuitry that includes a sync separating circuit and provides selected sync signals. Noller discloses a timing circuit responsive to the sync separating circuit and which provides the timing signals. Noller discloses that the modifying circuit includes a delay circuit that delays one or more portion of the copy protected video signal.

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Noller discloses that the apparatus further includes a switching circuit which inserts the delayed AGC pulses into the copy protected video signal in response to the timing signals [column 6, lines 16-51].

As to claim 18, Noller discloses that the timing circuitry includes a sync separating circuit that provides selected sync signals [figure 4 and accompanying description]. Noller discloses a timing circuit responsive to the sync separating circuit to provide the timing signals. Noller discloses that the modifying circuit includes a logic circuit responsive to the timing circuit to provide a control signal indicative of the presence of the copy protection signals and of the modified position separation. Noller suggests a switching circuit receiving the copy protected video signal for inserting the pulses having the modified position separation into the copy protected video signal in response to the control signal, to modify the widths of the sync/pseudo sync pulses and/or the respective AGC pulses [column 6, lines 16-51].

As to claim 19, Noller discloses a chroma filter receiving the copy protected video signal and which inserts color burst into the video signal via [column 8, lines 11-29].

As to claim 20, Noller discloses an input supplying the copy protected video signal with the sync/pseudo sync pulses and the respective AGC pulses. Noller discloses a timing circuitry responsive to the input and providing timing signals coincident with one or more portions of the copy protection signals. Noller discloses a modifying circuit for modifying the copy protected video. Noller discloses that the one or more portion of the modified copy protection signal is altered in reverse order in response to the timing signals to provide altered pulse pairs which defeat or reduces the effect of the copy protection signals [column 8, lines 11-29].

As to claim 21, Noller discloses that the copy protected video signal reversing process is implemented for all or selected portions of all or a selected plurality of the sync/pseudo sync pulses and/or respective AGC pulses [column 6, lines 16-51].

As to claim 22, Noller discloses an input supplying the copy protected video signal with the sync/pseudo sync pulses and the respective AGC pulses. Noller discloses a timing circuitry responsive to the input and providing timing signals coincident with one or more portions of the copy protection signals. Noller discloses a modifying circuit including an inverting amplifier/phase shifter circuit receiving the copy protected video signal and responsive thereto to provide inverted/phase shifted sync/pseudo sync pulses and respective AGC pulses to modify one or more portion of the original sync/pseudo sync and respective AGC pulses [column 3, lines 26-46].

As to claim 23, Noller discloses a second source of a second control voltage. Noller discloses a level shifter/attenuator means receiving the output of the modifying circuit and responsive to the second control voltage for level shifting/attenuating the inverted/phase shifted sync/pseudo sync pulses and respective AGC pulses [column 3, lines 26-46].

As to claim 36, Noller discloses providing the sync/pseudo sync pulses with the trailing edges thereof coincident with, or separated by less than 1.0 microsecond from, the leading edges of respective AGC pulses to provide the copy protection signals. Noller suggests position separating relative to time the sync/pseudo sync pulses relative to the respective AGC pulses an amount of 1.5 or more microseconds sufficient to provide the reduction in the effects or effectiveness of the copy protection signals [column 5 line 20 to column 6 line 6].

As to claims 37 and 38, Noller discloses that the modified position separation caused by the shifted positions of the sync/pseudo sync pulses relative to the respective AGC pulses provides the reduction in the effects of the copy protection signals in the recorder or TV set which may include allowing a recording of a viewable copy of the video signal [column 3, lines 26-46].

As to claim 41, Noller discloses that the AGC pulses are raised back porch AGC pulses that are position modulated [column 3, lines 26-46].

8. Claims 24-35, 40 and 42-55 are rejected under 35 U.S.C. 102(e) as being anticipated by Oguro U.S. Patent No. 5,907,655.

As to claim 24, Oguro discloses providing the sync or pseudo sync pulses with the trailing edges thereof generally coincident with the leading edges of respective AGC pulses thereby having essentially small to zero position separation consistent with maintaining copy protection [column 7, lines 45-64]. Oguro suggests dynamically increasing over time the position separation between the sync/pseudo sync pulses and the respective AGC pulses so as to reduce or defeat the effects of the copy protection signals [column 7, lines 31-39]. Oguro suggests dynamically decreasing over time the position separation between the sync/pseudo sync pulses and the respective AGC pulses to return to the essentially small to zero position separation that maintains copy protection [column 10, lines 20-28].

As to claim 25, Oguro suggests dynamically varying the position separation between at least one sync/pseudo sync pulse and at least one respective AGC pulse from the essentially small to zero position separation to a position separation in the region of 1.5 to 5.0 microseconds [figure 15 and accompanying description].

As to claim 26, Oguro discloses dynamically varying the position separation by dynamically varying the advancement of the trailing edge of the sync/pseudo sync pulses with respect to the respective AGC pulses [figure 27 and accompanying description].

As to claim 27, Oguro discloses dynamically varying the position separation by dynamically varying the delay of the leading edge of the AGC pulses with respect to the respective sync/pseudo sync pulses [column 11, lines 47-65].

As to claim 28, Oguro discloses dynamically varying the position separation by dynamically varying the advancement of the sync/pseudo sync pulses while dynamically varying the delay of the respective AGC pulses [figure 17 and accompanying description].

As to claim 29, Oguro discloses dynamically varying the position separation by dynamically varying the pulse width or the pulse width duration of the AGC pulses and/or of the sync/pseudo sync pulses [figure 17 and accompanying description].

As to claim 30, Oguro suggests dynamically narrowing any portion or all of the AGC pulses and/or the sync/pseudo sync pulses [column 10, lines 20-28].

As to claim 31, Oguro discloses timing circuitry receiving the video signal and which provides timing signals indicative of video lines that are to contain the copy protection signals, and of the location in the video lines of selected copy protection signals [figure 29 and accompanying description]. Oguro discloses a generating circuit to generate selectively derived and modulated pseudo sync pulses, which are modulated in response to the timing circuitry, and which generate AGC pulses that vary in width and/or position in response to the respective selectively derived and modulated pseudo sync pulses [figure 29 and accompanying description]. Oguro discloses a summing/inserting circuit receiving the video signal and responsive to the

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generating circuit and the timing circuitry to add or insert to the video signal a dynamic copy protection signal formed of the psuedo sync pulses and the respective width and/or position modulated AGC pulses [figure 29 and accompanying description].

As to claim 32, Oguro discloses that the timing circuitry includes a sync separating circuit to provide a horizontal rate (H rate) signal [column 8, lines 1-50]. Oguro discloses a first circuit responsive to the H rate signal to provide a first signal that defines a positive pulse duration of an H rate related signal [column 8, lines 1-50]. Oguro discloses a timing generator responsive to the H rate signal and which provides a second signal indicative of the location of sync pulses in a video line [column 8, lines 1-50]. Oguro discloses a line circuit responsive to the H rate signals to provide a third signal indicative of the video lines which are to contain the copy protection signals. Oguro discloses a logic circuit responsive to the first, second and third signals to provide inverted pseudo sync pulses on selected video lines [figure 17 and accompanying description]. Oguro discloses that the generating circuit includes a timer circuit responsive to control voltages to provide the AGC pulses that are varying in width and in position [figure 30 and accompanying description]. Oguro discloses that the summing/inserting circuit includes a summing amplifier receiving the video signal and responsive to the selectively derived pseudo sync pulses and the width and position varying AGC pulses. Oguro discloses that the summing/inserting circuit provides the position modulated AGC pulses in combination with the derived pseudo sync pulses, resulting in a dynamically varying copy protected video signal [figure 30 and accompanying description].

As to claim 33, Oguro discloses first circuit includes an H locked oscillator responsive to the H rate signal [column 8, lines 1-50]. Oguro discloses that the line circuit includes a memory

responsive to a line counter [figure 30 and accompanying description]. Oguro discloses that the timer circuit includes a pair of voltage controlled circuits and the summing amplifier means include first and second summing amplifiers responsive to the derived pseudo sync pulses and the respective width and position delay varying AGC pulses [figure 30 and accompanying description].

As to claim 34, Oguro discloses a generating circuit for providing the respective AGC pulses within at least a portion of a back porch [figure 17 and accompanying description]. Oguro discloses that the generating circuit dynamically positions and/or width modulates the respective back porch AGC pulses [figure 17 and accompanying description].

As to claim 35, Oguro discloses that the copy protection signals include sync, pseudo sync, AGC and/or raised back porch AGC pulses [figure 17 and accompanying description]. Oguro discloses that the generating circuit provides dynamic position, pulse width and/or gap width modulation of the pulses [figure 17 and accompanying description].

As to claim 40, Oguro discloses an input supplying the copy protected video signal with the trailing edge of the negative going pulses and the leading edge of the respective positive going pulses having the given small position separation which maintains the copy protection effect. Oguro discloses a timing circuitry responsive to the input means and providing timing signals coincident with one or more portions of the copy protection signals and indicative of one or more video lines containing the negative going pulses and the respective positive going pulses. Oguro discloses a modifying circuit responsive to the timing circuitry and shifting the relative edges and/or positions of the negative going pulses and of the respective positive going pulses with respect to each other so as to provide a modified position separation between the

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trailing edge of the negative going pulses and the leading edge of the positive going pulses which is of sufficient position separation to reduce or defeat the effects of the copy protection signals [column 10, lines 20-28].

As to claim 42, Oguro discloses that the pulse width of the sync/pseudo sync and/or AGC pulses are narrowed in the region of 100 percent to 50 percent [column 8, lines 1-50].

As to claim 43, Oguro discloses that only the AGC pulses are shifted in position continuously or discretely [column 10, lines 20-28].

As to claim 44, Oguro discloses dynamically amplitude modulating the sync, pseudo sync and/or the AGC pulses [column 8, lines 1-50].

As to claim 45, Oguro discloses narrowing any portion of the sync, pseudo sync and/or AGC pulses [column 10, lines 20-28].

As to claim 46, Oguro discloses that the AGC pulses are shifted in position or are narrowed continuously or discretely to dynamically enable and disable the copy protection signals [column 10, lines 20-28].

As to claim 47, Oguro discloses that the position separation or gap between the sync or pseudo sync pulse and the respective AGC pulse is gap width modulated [column 10, lines 20-28].

As to claim 48, Oguro discloses that the dynamic increasing and decreasing of the position separation comprises position and/or pulse width modulating the sync/pseudo sync and/or the AGC pulses; and amplitude modulating the position and/or pulse width modulated sync/pseudo sync and/or AGC pulses [column 10, lines 20-28].

As to claim 49, Oguro discloses dynamically modulating at least one or a selected combination of a position, gap width, pulse width or amplitude of one or more of selected pulses of the sync, pseudo sync, AGC and/or raised back porch AGC pulses so as to synthesis the copy protection signals [column 11, lines 47-65].

As to claim 50, Oguro discloses including selected raised back porch pulses. Oguro discloses that the selected raised back porch pulses are position modulated or position delayed to assist in said synthesis [column 10, lines 20-28].

As to claim 51, Oguro discloses that only the AGC or raised back porch AGC pulses are position and/or pulse width modulated [column 11, lines 47-65].

As to claim 52, Oguro discloses that only the sync and/or pseudo sync pulses are position and/or pulse width modulated [column 11, lines 47-65].

As to claim 53, Oguro discloses dynamically modulating the position, pulse width and/or gap width of the AGC pulses or of the sync/pseudo sync and respective AGC pulses. Oguro discloses that a single AGC and/or pseudo sync pulse is modulated [column 10, lines 20-28].

As to claim 54, Oguro discloses that the modulating includes amplitude modulation [column 8, lines 1-50].

As to claim 55, Oguro discloses that any of a selected number and arrangement of AGC pulses are modulated to enable and disable the copy protection signal [column 8, lines 1-50].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noller U.S. Patent No. 5,155,767 as applied to claim 1 above, and further in view of Ishimaru U.S. Patent No. 4,933,774.

As to claims 4 and 5, Noller does not teach advancing the trailing edge of the sync/pseudo sync pulses relative to the leading edge of the respective AGC pulses by a time period commensurate with the further position separation. Noller does not teach that the advancement is 1.0 to 2.5 microseconds depending upon the amount of the small position separation, and provides the further position separation of 1.5 or more microseconds.

Ishimaru teaches advancing the trailing edge of the sync/pseudo sync pulses relative to the leading edge [figure 4 and accompanying description]. Ishimaru suggests that the advancement is in the region of 1.0 to 2.5 microseconds [figure 4 and accompanying description]. Ishimaru suggests that the further position separation is 1.5 or more microseconds [figures 5b and 5c and accompanying description].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Noller so that the trailing edge of the sync/pseudo sync pulses would have been advanced relative to the leading edge of the AGC pulses by a time period commensurate with the further position separation. The advancement would have been between 1.0 to 2.5 microseconds depending upon the amount of the small position separation. The advancement would have provided the further separation of 1.5 or more microseconds.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Noller by the teaching of Ishimaru because the examiner asserts that this improves the S/N ratio and lowers the great tracking error.

10. Claims 6, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noller U.S. Patent No. 5,155,767 as applied to claim 1 above, and further in view of Holcombe U.S. Patent No. 5,864,591.

As to claims 6, 10 and 11, Noller does not teach delaying the AGC pulses of 0.5 to 1.5 microseconds relative to respective sync/pseudo sync pulses, while advancing the trailing edge of the sync/pseudo sync pulses in the region of 0.5 to about 1.5 microseconds relative to the delayed respective AGC pulses to obtain the modified position separation.

Holcombe suggests delaying the AGC pulses of 0.5 to 1.5 microseconds relative to respective sync/pseudo sync pulses, while advancing the trailing edge of the sync/pseudo sync pulses between 0.5 to about 1.5 microseconds relative to the delayed respective AGC pulses to obtain the modified position separation [figure 6 and accompanying description].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Noller so that the AGC pulses would have been delayed 0.5 to 1.5 microseconds relative to respective sync/pseudo sync pulses, while advancing the trailing edge of the sync/pseudo sync pulses between 0.5 to about 1.5 microseconds relative to the delayed respective AGC pulses.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Noller by the teaching of Holcombe because larger levels of feedback can be tolerated or the use of a low AGC threshold voltage level is permissible

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because the gain control voltage is not adversely affected by the feedback pulse from the rising edge of the output signal at D.sub.OUT [column 8, lines 23-34].

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K Moorthy whose telephone number is 703-305-1373. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aravind K Moorthy
May 17, 2004


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PRIMARY EXAMINER
A/U 2136